

Generative AI: Learning By Example

Presentation by: Jason and Azahar

Time to Grow (Leeds), 15th November 2023



The Speakers

Azahar Machwe (Ph.D.)

CTO Emerging tech. & Innovation



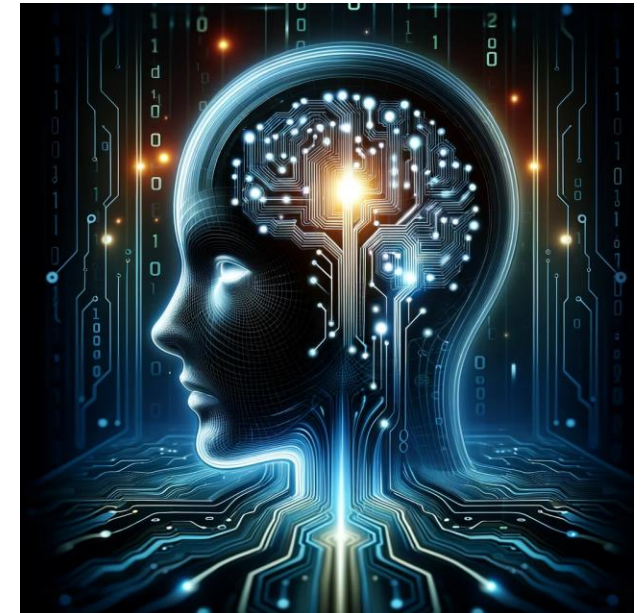
Jason Corless

CTO Enterprise Architecture



ChatGPT

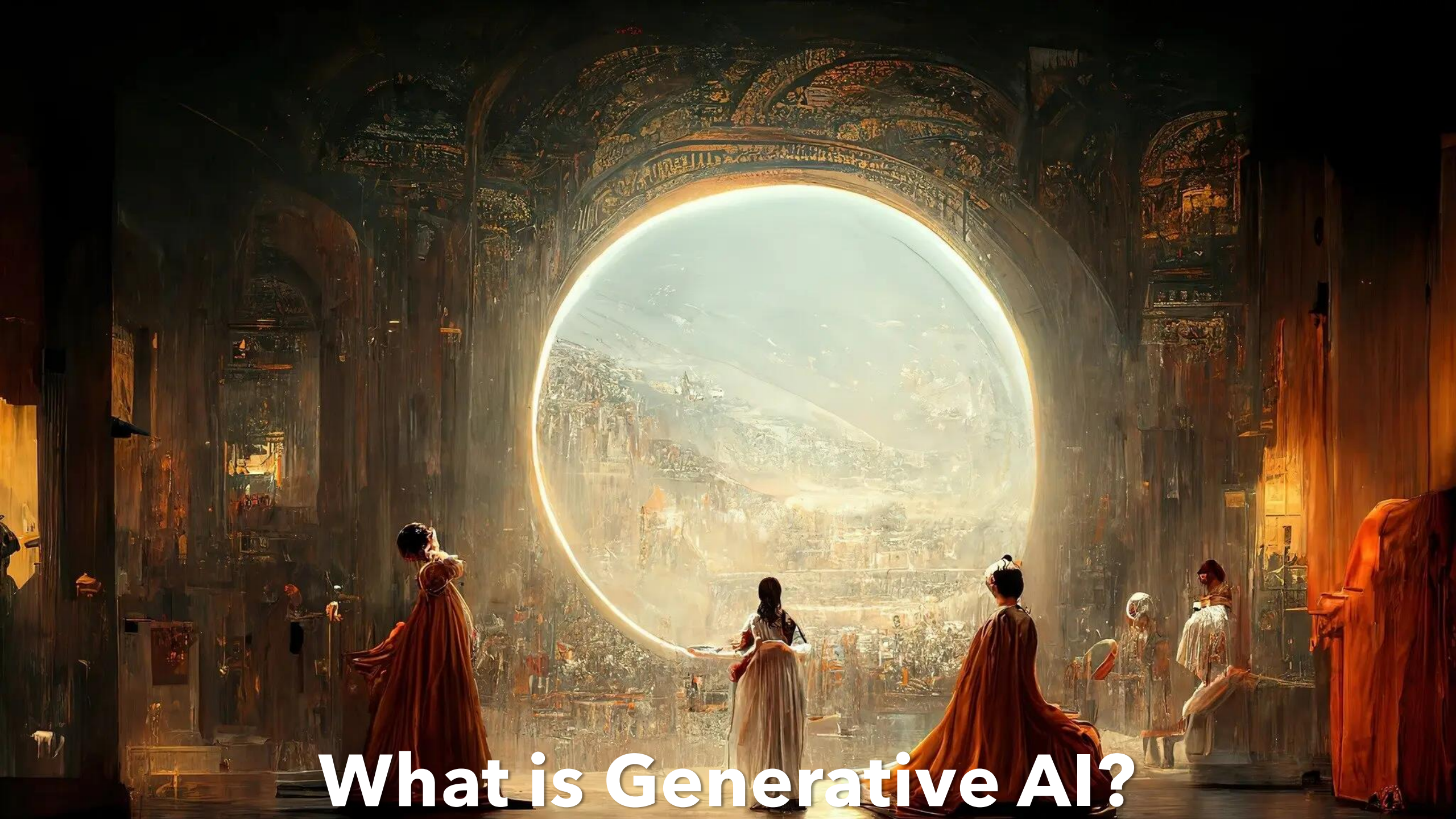
OpenAI Representative





Outline

- 1) Overview of Generative AI
- 2) Generative AI in Action: Using tools for useful work
- 3) Interactive Generative AI: Exploring a simulation



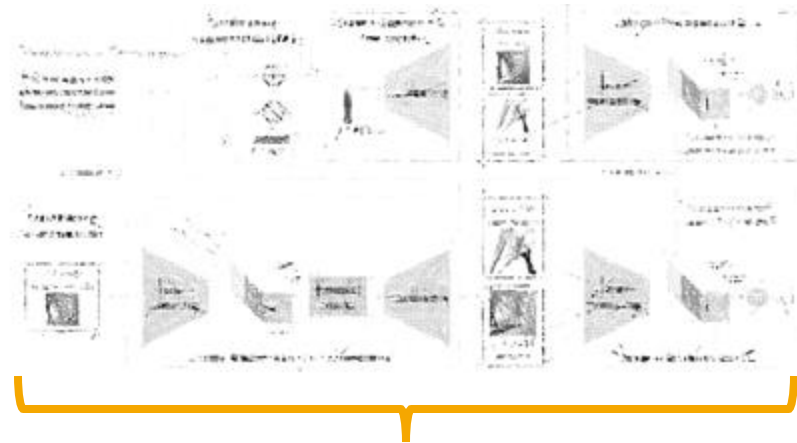
What is Generative AI?

What is Generative AI?

Using AI models to **generate** high quality documents, images, and videos based on user supplied prompts.

User supplied prompt

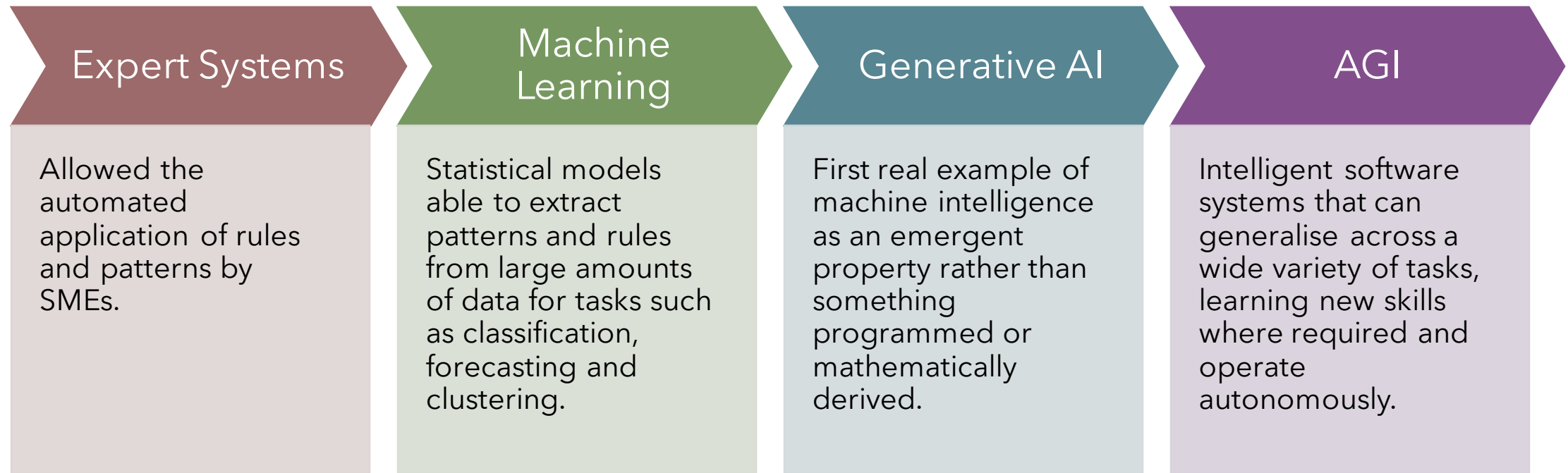
"A cute puppy splashing through water"



AI Model



Generative AI and AGI in context

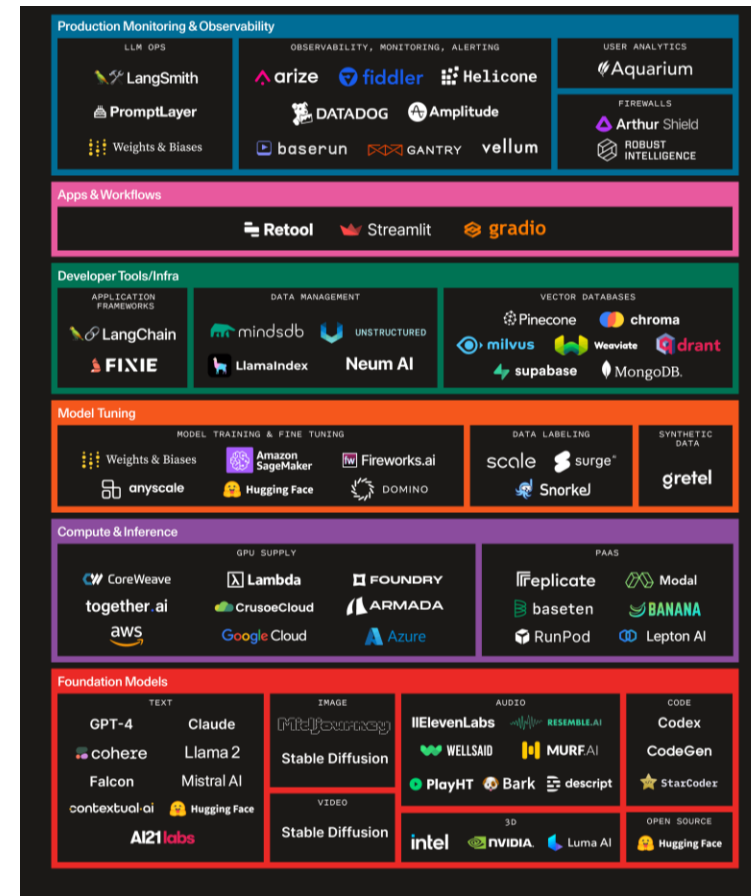


Focus on Value

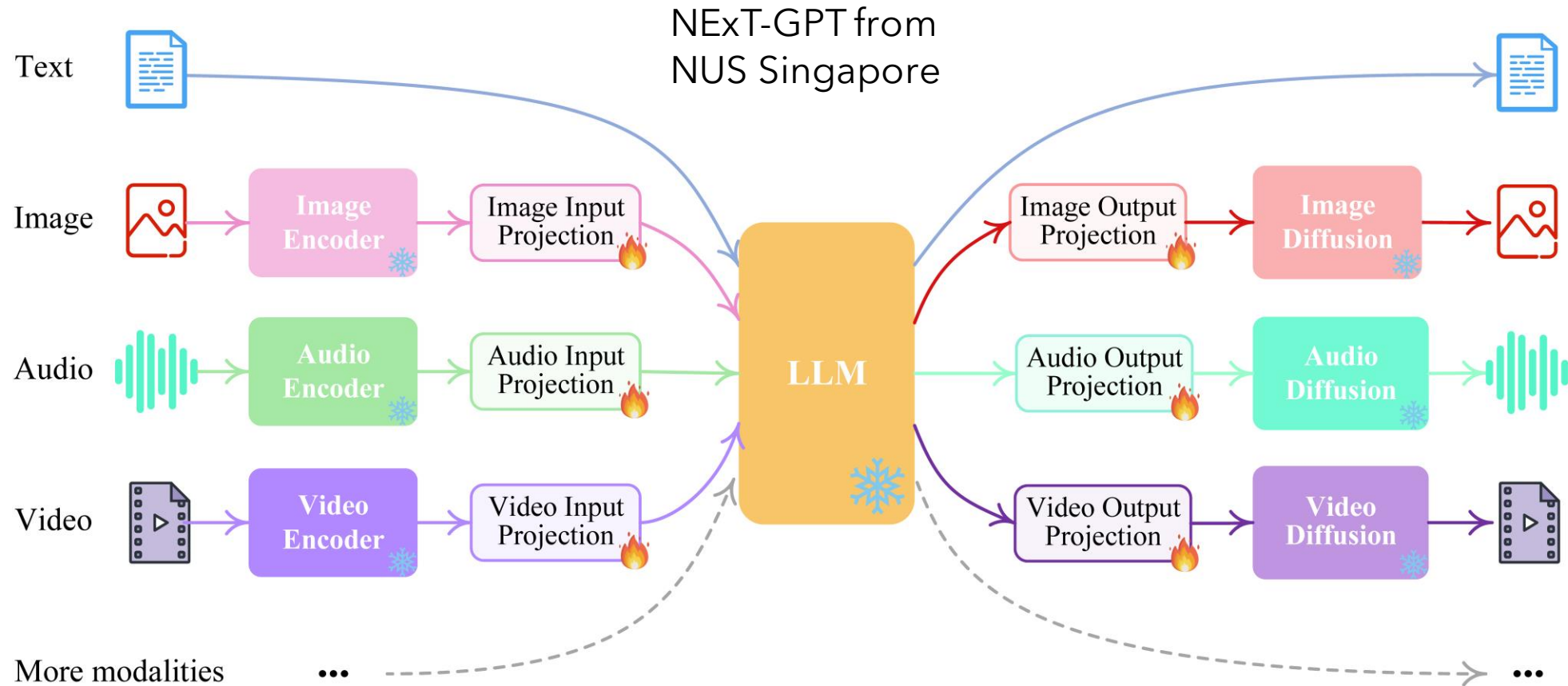
Generative AI Market Map



Generative AI Infrastructure Stack

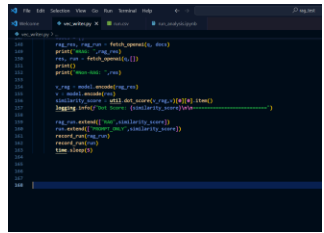


What's Next?



Shared Context: Models that can accept text, images, audio, etc. as **inputs** as well as **generate** different modalities.

Generative AI for Super Techies



VS Code Editor

Model downloaded
from trusted
repositories
(e.g., Hugging Face)



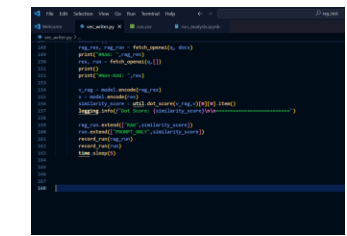
Hardware Requirements

Development PC with *at least* 16gb of RAM, GPU, and internet access to download models

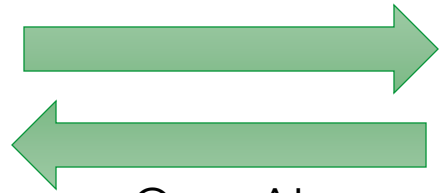
Software Requirements

- Visual Studio Code Editor
- Python 3.11.x
- Python ML Libraries:
transformers, keras,
and tensorflow

Generative AI for Casual Techies



VS Code Editor



OpenAI
API client

Open
AI APIs

Open AI
Models

GPT-3.5
GPT-4
others



Internet

Hardware Requirements

A PC with *at least* 8gb of RAM and internet access to connect with APIs

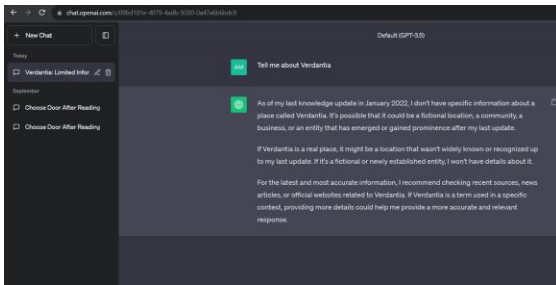
Software Requirements

- Visual Studio Code Editor
- Python 3.11.x
- Python Libraries:
OpenAI API client



Demo

Generative AI for All



GPT Website/App



Open AI Models

GPT-3.5 (Free)
GPT-4 (£)



Hardware Requirements

Any smart device or laptop with internet access

Software Requirements

Navigate to the address below and setup your account

[Signup](#)

Introducing Verdantia

Verdantia is a lush, vibrant world that has made significant strides in sustainable living, though it still faces challenges balancing its inhabitants needs with the preservation of its unique ecosystems



How Imaginative is the Simulation/Hallucination?

A

Beings of Verdantia make contact with Earth... What happens next?

B

Might the Verdantians have knowledge of their place in the universe and how does that interplay with religion?

C

Protecting the environment is important on Verdantia, how might the laws of the planet or regions support that?

Some Tough Choices

A

Extremely valuable resources are discovered deep beneath the ground of Frostholt. What happens next?

Frostholt: Predominantly icy with sparse vegetation, populated by hearty species adapted to extreme cold. Small communities extract valuable minerals, impacting the local environment.

B

Is it advisable for Verdantians to ignore global warming and "level up" Frostholt?

C

What would be the consequences if Zyphera underwent a massive industrial expansion to boost its economy?

Zyphera: Known for its towering bioluminescent forests and rich biodiversity. Heavily populated in the cities, with sprawling urban areas.

How deep is the Simulation/Hallucination?

A

What do Verdantians look like?

B

Why is the Festival of Lights important for Frostholm which doesn't have the natural conditions to sustain the bioluminescent flora?

C

Given that Verdantia has a strong focus on sustainability, what is the status of global warming?



Thank you!

Useful links

Link	Description
https://huggingface.co/	One stop site for LLMs
https://pypi.org/project/transformers/	Getting started with coding transformers
https://code.visualstudio.com/	Visual Studio Coding Environment
https://github.com/corlejas/planet-sim	Repository of the content shown today